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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,203	11/20/2003	Stefan Felter	2380-795	6224

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EXAMINER	
HA, DAC V	
ART UNIT	PAPER NUMBER
2611	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/717,203	FELTER, STEFAN	
	Examiner	Art Unit	
	Dac V. Ha	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. **Claims 1-38** are provisionally rejected on the ground of nonstatutory double patenting over claims 2-10, 12-19, 28-33, 35-42 of copending Application No. 10/717,313. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: independent claims 2, 35 of Application 10/717,313 recite all claimed subject matter of that in claims 1, 21 of the present application. Similar issue exist in dependent claims 2-20, 22-38.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

3. **Claims 1-38** are provisionally rejected on the ground of nonstatutory double patenting over claims 1-32 of copending Application No. 10/717,212. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: independent claim 1 of Application 10/717,212 covers all claimed subject matter of that of claims 1, 21of the present application. Similarly for dependent claims as to those dependent claims in Application 10/717,212, collectively.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-8, 21-27** are rejected under 35 U.S.C. 102(e) as being anticipated by Jitsukawa et al. (US 2003/0012267) (hereafter Jitsukawa).

Regarding claim 1, Jitsukawa discloses a wireless communication receiver comprising "an antenna array which comprises plural antennas, the plural antennas providing respective plural signals indicative of an arriving wavefront" (see figures 1-3, pars. 6, 30, and 38); a joint searcher (pars. 47, searcher) and channel estimator (pars. 37-46, phase difference estimation portion) which essentially concurrently considers the plural signals provided by the plural antennas for determining both a time of arrival and channel coefficient" (see figures 2, 4, and pars. 32-71).

Regarding claim 21, see claim 1.

Regarding claims 2, 22, Jitsukawa further discloses "wherein the joint searcher and channel estimator essentially concurrently considers the plural signals provided by the plural antennas for determining plural times of arrival and plural channel coefficients, an arriving wavefront being represented by one of the plural times of arrival and a corresponding one of the plural channel coefficients" in see figure 3.

Regarding claims 3, 23, see claims 1, 21.

Regarding claims 4, 24, Jitsukawa further discloses "wherein the time channel coefficient is a composite channel coefficient which takes into consideration channel impulse responses for channels associated with each of the plural antennas in the antenna array" in Fig. 8.

Regarding claims 5, 25, Jitsukawa further discloses "further comprising a detector which utilizes the channel coefficient and the time of arrival to provide a symbol estimate" in Para. 6-14.

Regarding claims 6, 26, Jitsukawa further discloses "wherein the wireless communication receiver is a mobile terminal" in Para. 16.

Regarding claims 7, 27, Jitsukawa further discloses "wherein the wireless communication receiver network node" in Para. 1, 30, base station.

Regarding claim 8, Jitsukawa further discloses "wherein the antenna array comprises a uniform linear array of plural antennas" in Fig. 3; Para. 33-40.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 9, 10, 17, 28, 31-32, 34-38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jitsukawa in view of Dent (US 5,790,606).

Regarding claims 9, 10,, 17 28, 35, Jitsukawa discloses the apparatus of claim 1, wherein the joint searcher and channel estimator. However, fails to disclose "storing

a complex value indicative of the signal received in a sampling window in an antenna signal matrix as a function of a sampling window time index and the antenna index; performing a Fast Fourier Transformation (FFT) calculation to generate a correlator output using the correlator output to generate the time of arrival and the channel coefficients". Dent discloses an antenna signal matrix in which values indicative of the signal received in a sampling window are stored (see figures 1 and 7, and col. 4 line 1-col. 6 line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate such teaching from Dent into Jitsukawa as optional for the same purpose of determining and generating the time of arrival and the channel coefficients.

Regarding claims 18-20, 31-32, 34, 36-38, these claimed subject matter would have been application preference and/or specific, thus would have been obvious to one skilled in the art.

Allowable Subject Matter

8. **Claims 11-16, 29-30, 33** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Li et al. (US 200480125899) discloses Method And System For Adaptively Combining Signals.

Scherzer et al. (US 6,901,062) dsiclsoes Adaptive Antenna Array Wireless Data Access Point.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 571-272-3040. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-3086. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dac V. Ha
Primary Examiner
Art Unit 2611